FOSS4G North America 2012 - Write up

POSTGIS - Version 2.0 is out and they now support Geography datatypes. This means you can largely ignore issues around the Poles and the International Dateline. Other enhancements include Conversion from Raster to Vectors and vice versa.
http://postgis.refractions.net/news/20120403/

PostgreSQL FUTURE - 9.2 focused on Vertical Scaling. The Database can now use up to 64 Cores. Improvements in data replication via Cascading Replication. This can really help with cloud-type deployments and keep bandwidth usage in check. Instead of having one main Production Node Replicate to Several nodes, you can declare a single Master Replication node that will then cascade down to local nodes.

Support for the JSON datatype. This means you can support Text-to-JSON, and Array-to-JSON from within the database. You can even have SQL Query results returned from the DB as JSON. This is a great feature if you are doing a lot of client/browser work in JavaScript. This does require using Google's V8 Engine, but documentation can help this.

The existence of the V8 Engine on the server also means you can write stored procedures in the database using JavaScript.

Range Types are now supported. So instead of storing StartDate and EndDate in separate columns and doing range queries on 2 columns, you can instead store the RANGE in a single column. Linear Distances can also be stored in a similar fashion.

Space-GiST Index - Space Partitioning Tree

Foreign Data Wrapper: Is in 9.1, but they are looking to improve the support for additional external data types from other Databases down to Excel Spreadsheets. Currently you get READ-ONLY access via FDW, but future plans include WRITE access as well.

Full Details on PostgreSQL 9.2development:
http://www.postgresql.org/docs/devel/static/

CartoDB.com - PostGIS in the cloud. A very powerful and cool website/interface. A free plan is 5 tables and 5MB. This is great for prototypes and such. They do offer paid plans if/when you out grow the free plan.
http://cartodb.com/tour

Geoscript.org - Using scripting languages like Scala, Python and JavaScript to control GeoServer without having to be a Java Programmer. This has been put together and is run by the OpenGEO group.
http://geoscript.org/

jQuery Geo - Ryan Westphal is the core developer and his mission is to make web mapping easier. He does this by giving users the ability to do more with less code. (similar to jQuery DOM Manipulation Library) Still in beta but should be released soon. If you are a geospatial web developer you may want to take a look.
http://jquerygeo.com/

OpenGEO's GeoNode - Spatial Data Infrastructure. A way to enable website users to upload and share their maps. They can also build maps that they can then share. GeoNode comes with modules for rating maps, sharing, user profiles, authentication, etc... If you need to enable users to collaborate around a given geospatial topic GeoNode is worth a look. Examples are the Harvard World Map (http://worldmap.harvard.edu/), the World Bank uses GeoNode for their GFDRR (http://www.gfdrr.org/gfdrr/) Global Faculty for Disaster Reduction and Recovery.

OpenSource LiDAR data - Challenge is that point clouds are not Vector or Raster data, so they tend to be a BAD FIT for traditional GeoSpatial solutions. There is a Point Data Abstraction Layer library PDAL that can be used to help process LiDAR data. Full list of links back to websites to learn more are below:

LiDAR and Point Cloud Software

PDAL - http://pointcloud.org/
libLAS - http://liblas.org/ (C/C++ library for reading & writing LAS LiDAR data)
LASTools - http://www.cs.unc.edu/~isenburg/lastools/
LASZip - http://laszip.org/ (Compression Library that can get up to 10:1 compression)
Point Cloud Library (PCL) - http://pointclouds.org/ - Not to be confused with the PDAL URL.
3DToolKit - http://slam6d.sourceforge.net/

Remote Sensing & Image Processing

Opticks - http://opticks.org/confluence/display/opticks/Welcome+To+Opticks - Alternative to ENVI & RemoteView. Not just LiDAR data, but Remote Sensing data.
OSSIM - http://www.ossim.org/OSSIM/OSSIM_Home.html - "Awesome Image Processing"